KPDES FORM HQAA – ATTACHMENTS

II. Alternative Analysis

1. **Discharge to other treatment facilities:**

Alternate treatment works have been investigated. The nearest water treatment plant is located at Wallins, Ky., which is approximately 11 miles away from this proposed site. At $20.00 per foot to construct a line to convey the discharge from this site to the treatment plant would be $1,161,600. Another $100,000 would be required to construct a pumping station that would force feed the material from the mine area to the treating facility. This facility treats sanitary waste, not settable solids.

A sediment pond would require being constructed at the Wallins location to remove silt from the discharge. Construction and maintenance of this structure would be about $50,000. The total cost to collect, treat, and convey this water from the job site to this treatment plant would be approximately $1,261,050.

2. **Use of other discharge location**:

Puckett Creek will directly receive the discharge from this operation. To collect water from Saylor Branch and Jackson Mill Creek watersheds would require an additional $150,000. This cost would be in addition to the $1,262,050, mentioned above. There are no alternatives to this situation, since all drainage will be received Puckett Creek, which drains into the Cumberland River.

3. **Water reuse or recycle:**

Water could be used as a dust suppressor at the mining site and during re-vegetation of the reclaimed mining areas. This use will be a minimum compared to the total drainage. The total drainage area for Saylor Branch is approximately 500 acres and the Jackson Mill Creek drainage is about 300 acres. The Saylor Branch discharge is approximately 400 gallons/minute for 24,000 gallons per hour. The Jackson Mill watershed is approximately 300 gallons/minute for 18,000 gallons per hour.

A portion of the water can be used for dust suppression and re-vegetation at the mining site. The amount would be minimal. During dry times, the haul roads and access roads are watered every working hour during the day, which is 10 times. The water truck carries 5,000 gallons per load, this equates to 50,000 gallons per day. During re-seeding the permittee will sow ten loads of seed per day. The hydroseeder carries 2,500 gallons per load. This equates to 25,000 gallons per day.

4. **Alternate process or treatment options:**

Construction of a small package plant at the site would cost approximately $75,000. Additional costs would be incurred for maintenance and additional personnel to operate

the facility. To dismantle and remove the structure will be additional expense. Sediment from a large disturbance as this cannot be controlled by hay bales and sediment fences and meet the effluent limits as established by the regulations.

5. **On-site or subsurface disposal options**:

Sediment ponds are the only method to store the on-site discharge. To retain all of the water without a discharge, will require the construction of enormous ponds. The ponds would be constructed in streams, therefore the disturbance would cause unneeded and reparable environmental harm. To construct ponds the size that never discharge, would nearly be impossible. If it were possible, the cost would be in the millions.

6. **Evaluation of any other alternatives to lowering water quality**:

Other alternatives reviewed include reducing the standards for discharge or aborting the project:

By reducing the water quality limits, the operation would require cost increases and additional time spent. Much bigger in-stream ponds would need to be constructed. Enlarging or adding disturbances will have a negative environmental affect on the stream and could cost millions of dollars for construction and stream mitigation. Large amounts of water would need to be stored, creating a safety hazard to the public should structural failure occur. The cost of removing and reclaiming each sediment structure will cost approximately $75,000.

Another option would be to abort the project altogether. Many negative affects to the area would occur if mining ceases. Two years of much needed coal production would be lost. Taxes paid by the Company and its employees will stop. Workers and businesses will suffer from lost wages of approximately $3,200,000. Approximately fifty workers and their jobs will disappear. Severance taxes of approximately $1,200,000, paid to the Commonwealth of Kentucky will cease. A portion of the severance tax that filters back to the County will halt.

III Socioeconomic Demonstration

1. **State the positive and beneficial effects of this facility on existing environmental or public health problem:**

The amended mining includes areas the have been logged and mined prior to 1977. There will be sediment control placed throughout the area where none now exists. This site will control the surface water discharge.

The movement of sediment is unabated in this area. The mining operation will construct and maintain ponds for sediment control. Each pond will control existing conditions and reduce current environmental problems.

2. **Describe the facility's effect on the employment of the area:**

This operation will provide employment for fifty people. These positions pay higher wages than comparable industries in the region. The average weekly salary per employee will be $770.00. The average salary per employee for other industries in the region is approximately $410.00. This facility will improve the employment for this area.

3. **Describe how this facility will increase or avoid the decrease of area employment:**

The economy for Harlan County is heavily dependent on the coal mining industry. The amended area will extend production on the existing permitted area for an additional two years. The extension will assure current employees of having increased job security and could provide an opportunity for hiring new workers. The extended time will also aid the service industry, which furnishes materials, equipment, and engineering services. There could be an additional twenty-five full time employees required to carry out the duties of the service industry.

4. **Describe the industrial or Commercial Benefits to the Community:**

This amended area will increase the security for current workers. It will provide established personnel a chance to advance in pay and promotion opportunities. This permit action will extend the overall length of mining an additional two years. It will create new jobs and require more workers. The extended two years of mining will add $3,200,000 dollars to the regions economy. The State of Kentucky and Harlan County will proportionately divide coal severance tax totaling $1,200,000 for two years.

5. **Describe any other economic or social benefits to the community**:

Extending the existing fifty jobs in Harlan County an extra two years will create an annual payroll of $1,600,000. These wages will be approximately 2/3 higher than other industries pay throughout the County. These jobs will provide taxes that will contribute to the overall growth of the Towns and County of Harlan. These wages will aid in creating other non-coal related service jobs. Severance taxes collected can be utilized in improving roads, public schools, local governments, and other projects that may benefit the citizens of Harlan County.

11. **How will those households be economically or socially impacted by this project:**

Each worker will earn $770.00 per week, which is 2/3 higher than other industries pay in Harlan County. These wages will benefit the community and each family in a positive way. To have secure employment is also an asset to the region and each household.

Socioeconomic, continued:

12. **Does the project replace any other methods of sewage treatment to existing facilities:**

The nearest existing sewage treatment plant is approximately eleven miles away.

13. **Does this project treat any existing sources of pollution more effective:**

This proposed project will have sediment ponds in place as the primary structures to control any erosion or pollution that may escape from the permitted area. The ponds are designed and constructed to allow settable solids to drop out before the waters are released into the receiving streams. Temporary sediment control such as straw bales and sediment fences will be installed strategically locations such a gullies and diversion ditches. The ponds will provide sediment control for pre-law mined areas and prior logging.

14. **Does the project eliminate any other sources of discharge or pollution**:

This area has been extensively logged and mined. Any drainage that flows through a previously logged area or a previously mined area will flow through the proposed sediment ponds.

15. **How will the increase in production levels positively affect the socioeconomic condition of the area:**

Increased production not only provides additional jobs, it also provides more tons of coal that increases the severance tax base for the Commonwealth of Kentucky and Harlan County. Increased production creates for the business sector additional revenue to be spent by the workers and the Company.

16. **How will the increase in operational efficiency positively affect the socioeconomic condition of the area:**

As efficiency increases production costs decrease. This provides more money that's available for the Company to utilize in purchasing additional equipment or provide bonus incentives to the employees. When a worker's income increases his buying power enlarges, allowing him to buy a house, an automobile, or clothing.

As efficiency increases, the disturbed areas can be reclaimed faster. Faster reclamation means a vegetation cover can be established sooner, thus decreasing the total adverse environmental impact to the region.